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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/194,996	09/20/1999	Jean-Luc Dubois	146.1309	3834

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EXAMINER	
GHALI, ISIS A D	

ART UNIT	PAPER NUMBER
1615	

DATE MAILED: 09/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/194,996	DUBOIS, JEAN-LUC	
	Examiner	Art Unit	
	Isis Ghali	1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06/19/2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The receipt is acknowledged of applicant's amendment filed 06/19/2006.

Claims 11-21 are pending and included in the prosecution.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 11-14, 16, 17, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,904,931 ('931).

US '931 teaches a transdermal therapeutic system for administering a mixture of steroid sex hormones (abstract; col.4, lines 2-4). The system comprises two active ingredients containing matrix layers arranged side by side wherein one matrix is loaded with gestagen and the other is loaded with estrogen (col.6, lines 1-3, 28-32; col.8, example 4). Examples of gestagens include gestodene, levonorgestrel, desogestrel, norethisterone and norethisterone acetate (col.1, lines 20-22). Examples of estrogen include estradiol (col.1, lines 27-35). The two matrices are separated by space and care must be taken for sufficient spacing of the areas to prevent a diffusion of active ingredient in the respective other area (col.6, lines 36-39). Each matrix is covered by a separate cover layer and the system as a whole is covered by a removable protective layer (Figure 2, col.6, lines 50-57). The system is provided by skin contact adhesive layer (col.4, lines 34-35). The matrix is silicone adhesive or acrylate adhesive (col.5, lines 15-19; col.7, lines 40-43; col.8, example 4). The size of the system ranges from 1-100 cm^2 (col.5, lines 60-62). The reference further disclosed that gestagen is used with silicone adhesive and estrogen is used with polyacrylate adhesive (col.7, example 1; col.8, lines 35-38). The reference disclosed method of making the system including the steps of mixing the hormone with the adhesive and the solvent, coating the mixture on the cover layer, drying the mixture and applying the removable protective layer, and finally laminating and punching the product to obtain the individual patches (col.4, lines 49-64; col.8, example 4).

US '931 does not teach the exact distance that separates the two matrices as claimed in claim 11.

The claimed distance does not impart patentability to the claims, absent evidence to the contrary. However, the reference suggests that care must be taken for sufficient spacing of the areas to prevent a diffusion of active ingredient in the respective other area.

Thus, it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a transdermal therapeutic system comprising two adhesive matrices, one loaded with progesterone and the other loaded with estrogen as disclosed by US '931, and adjust the space between the two matrices to obtain independent delivery of the two hormones, motivated by the teaching of the reference that care must be taken for sufficient spacing of the areas to prevent a diffusion of active ingredient in the respective other area, with reasonable expectation of having transdermal therapeutic system that deliver progesterone and estrogen from two separate matrices to the patient in need of such treatment with success.

4. Claims 11-14, 16, 17, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,858,394 ('394).

US '394 teaches a transdermal therapeutic system for administering a mixture of steroid sex hormones (abstract; col.1, lines 41-44). The system comprises two active ingredients containing matrix layers arranged side by side wherein one matrix is loaded with gestodene and the other is loaded with estrogen (col.5, lines 11-16, 38-45; col.8,

example 4). Examples of estrogen include estradiol (col.2, lines 10-12). The two matrices are separated by space and care must be taken for sufficient spacing of the areas to prevent a diffusion of active ingredient in the respective other area (col.5, lines 20-23). Each matrix is covered by a separate cover layer and the system as a whole is covered by a removable protective layer (Figure 2, col.5, lines 38-45). The system is provided by skin contact adhesive layer (col.4, lines 13-14). The matrix is silicone adhesive or acrylate adhesive (col.4, lines 16-19; col.6, lines 66-67; col.8, example 4). The size of the system ranges from 5-100 cm^2 (col.4, lines 32-33). The reference further disclosed that gestagen is used with silicone adhesive and estrogen is used with polyacrylate adhesive (col.6, example 1; col.8, lines 7-10). The reference disclosed that the individual reservoirs are provided with differing permeable polymers to adapt the diffusion flow of the individual active ingredients to the respective need (col.5, lines 23-27). The reference disclosed method of making the system including the steps of mixing the hormone with the adhesive and the solvent, coating the mixture on the cover layer, drying the mixture and applying the removable protective layer, and finally laminating and punching the product to obtain the individual patches (col.4, lines 1-15; col.8, example 4).

US '394 does not teach the exact distance that separates the two matrices as claimed in claim 11.

The claimed distance does not impart patentability to the claims, absent evidence to the contrary. However, the reference suggests that care must be taken for sufficient

spacing of the areas to prevent a diffusion of active ingredient in the respective other area.

Thus, it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a transdermal therapeutic system comprising two adhesive matrices, one loaded with progesterone and the other loaded with estrogen as disclosed by US '394, and adjust the space between the two matrices to obtain independent delivery of the two hormones, motivated by the teaching of the reference that care must be taken for sufficient spacing of the areas to prevent a diffusion of active ingredient in the respective other area, with reasonable expectation of having transdermal therapeutic system that deliver progesterone and estrogen from two separate matrices to the patient in need of such treatment with success.

5. Claims 11-14, 16, 17, 20 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,538,736 ('736).

US '736 teaches an active substance containing plaster for controlled administration of active substances to the skin. The plaster comprises a backing layer, an active substance reservoir divided perpendicularly to the skin contact surface of the plaster and having one or more active substances, contact adhesive layer on the skin contact layer, and removable protective layer that is removed prior to application to the skin (abstract). The active substance reservoirs can contain estrogen and gestagen (col.3, lines 57-63). The active substance reservoirs are separated by a gap of 14 mm and are covered by adhesive layers (col.5, lines 1-50). The skin contact adhesive layer

is made of silicone (col.8, line 63). The reference disclosed a method of production of the plaster comprising mixing the active substance, the solvent and the polymer, drying the mixture and laminating the product to the other layers (col.9, lines 1-41). The reference disclosed that the disclosed sizes are not intended to restrict the invention and can be adapted by the expert in the field to the therapeutic requirement and rational production (col.7, lines 48-55).

US '736 does not teach the exact claimed distance that separates the two matrices as claimed in claim 11, the reference teaches 14 mm.

The claimed distance does not impart patentability to the claims, absent evidence to the contrary. However, the reference suggests that care must be taken for sufficient spacing of the areas to prevent a diffusion of active ingredient in the respective other area.

Thus, it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a transdermal therapeutic system comprising two drug containing reservoirs, one loaded with gestagen and the other loaded with estrogen as disclosed by US '736, and adjust the gap between the two reservoirs to obtain the desired delivery of the two hormones, motivated by the teaching of the reference that the disclosed sizes are not intended to restrict the invention and can be adapted by the expert in the field to the therapeutic requirement and rational production, with reasonable expectation of having transdermal therapeutic system that deliver gestagen and estrogen from two separate reservoirs to the patient in need of such treatment with success.

6. Claims 11-17, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,296,230 ('230).

US '230 teaches a transdermal fertility control system comprising multi-region transdermal delivery dosage unit and method of its making (abstract). The dosage unit delivers different steroid hormones from different regions within a single dosage unit (col.16, lines 63-68). The different regions have different shapes (col.18, lines 66-68). The dosage unit contains the hormones in a matrix made of silicon adhesive polymer (col.3, lines 55-62). The reference discloses that factors can be changed to control the amount or ratio of hormones delivered from the system, and among these factors are the area and area ratio of each region, and changing the type of polymer adhesive which forms each region (col.17, lines 16-23). Hormones to be delivered by the disclosed system is combination of 17beta-estradiol and progesterone, such as megestone (col.4, lines 6-7; col.12, lines 29-30). The references discloses method of making of the device comprising mixing the ingredient, drying them on backing and laminating the product to other layers (col.18, lines 9-60).

US '230 does not teach the exact distance that separates the two matrices as claimed in claim 11.

The claimed distance does not impart patentability to the claims, absent evidence to the contrary. However, the reference suggests that care must be taken for sufficient spacing of the areas to prevent a diffusion of active ingredient in the respective other area.

Thus, it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a transdermal therapeutic system comprising two regions to deliver megestone from one region and estradiol from the other as disclosed by US '230, and adjust the area between the two regions to obtain the desired delivery of the two hormones, motivated by the teaching of the reference that factors can be changed to control the amount or ratio of hormones delivered from the system, and among these factors are the area and area ratio of each region, with reasonable expectation of having transdermal therapeutic system that deliver megestone and estradiol from two separate regions to the patient in need of such treatment with success.

7. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of US '931, US '394 and US '736 in view of US 5,834,452 ('452).

The teachings of the US '931, US '394 and US '736 are discussed above. However, the references do not teach trimegestone as claimed in claim 15. US '736 does not teach estradiol as claimed in claims 16 and 17.

US '452 teaches a composition that can be in the form of a patch comprises the progestomimetic compound trimegestone and the estrogen compound 17beta-estradiol, such a combination find use in hormonal replacement treatment relating to menopause and particularly in the prevention or treatment of osteoporosis (abstract; col.3, lines 12, 38-60; col.10, table in the bottom of col.10).

Thus, it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a transdermal patch comprising two compartments to deliver progesterone and estrogen loaded into two separate compartments as disclosed by any of the US '931, US '394 and US '736, and to load one compartment with trimegestone and the other with estradiol, motivated by the teaching of US '452 that such a combination finds use in hormonal replacement treatment relating to menopause and particularly in the prevention or treatment of osteoporosis, with reasonable expectation of delivering a combination of estradiol and trimegestone from two separate compartments of a transdermal device to treat patient in need of hormonal replacement therapy.

8. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of US '931, US '394 and US '736 in view of US '452 as applied to claims 11-17, 20 and 21 above, and further in view of WO 93/10772 ('772).

The teachings of the references in combination are discussed above. However, the references do not teach the species of the acrylate used with the estradiol to be 2-ethylhexyl acrylate and vinyl acetate copolymer.

WO '772 teaches transdermal delivery system to deliver 17beta-estradiol to the skin; said system comprises the drug in 2-ethylhexyl acrylate and vinyl acetate copolymer matrix (abstract). The system is well-tolerated, stable, effective, prevents crystallization of the drug and ensures adequate extended level of active ingredient in the blood and has good tack and adhesive properties (paragraph bridging pages 5-6).

Thus, it would have been obvious to one having ordinary skill in the art a the time of the invention to provide a transdermal drug delivery device to deliver trimegestone and 17beta-estradiol as disclosed by the combination of the above references, and select 2-ethylhexyl acrylate and vinyl acetate copolymer matrix to deliver the estradiol, motivated by the teaching of WO '772 that the 2-ethylhexyl acrylate and vinyl acetate copolymer matrix is well tolerated, stable, effective, prevents crystallization of estradiol and ensures adequate extended level of the hormone in the blood and has good tack and adhesive properties, with reasonable expectation of the delivered device to provide the combination of hormones from two different matrices with success.

9. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over US '230 in view of WO '772.

The teachings of US '230 are discussed above. However, the reference does not teach the species of the acrylate used with the estradiol to be 2-ethylhexyl acrylate and vinyl acetate copolymer.

WO '772 teaches transdermal delivery system to deliver 17beta-estradiol to the skin said system comprises the drug in 2-ethylhexyl acrylate and vinyl acetate copolymer matrix (abstract). The system is well-tolerated, stable, effective, prevents crystallization of the drug and ensures adequate extended level of active ingredient in the blood and has good tack and adhesive properties (paragraph bridging pages 5-6).

Thus, it would have been obvious to one having ordinary skill in the art a the time of the invention to provide a transdermal drug delivery device to deliver megestone and

17beta-estradiol from two different regions as disclosed by US '230, and select 2-ethylhexyl acrylate and vinyl acetate copolymer matrix to deliver the estradiol because US '230 disclosed that factors can be changed to control the amount or ratio of hormones delivered from the system, and among these factors are changing the type of polymer adhesive which forms each region, and further motivated by teaching of WO '772 that the 2-ethylhexyl acrylate and vinyl acetate copolymer matrix is well tolerated, stable, effective, prevents crystallization of estradiol and ensures adequate extended level of the hormone in the blood and has good tack and adhesive properties, with reasonable expectation of the delivered device to provide the combination of hormones from two different matrices with success.

Response to Arguments

10. Applicant's arguments filed 06/19/2006 have been fully considered but they are not persuasive.

Applicants argue that:

- None of the cited references teach the space between the two compartments is 1-10 mm.

In response to this argument, applicants' attention is drawn to the scope of the present claims that are directed to transdermal patch comprising two separate compartments comprising two different hormones, and method of its making, and

applicants admit that all the cited primary references teach transdermal devices comprising two matrices or compartments that are separated from each other and containing two different hormones, as applicants desired. Applicants admit that the differences between the prior art transdermal devices and the instant device are the distance between the two compartments and the single protective layer. Therefore, the art perceived the need to deliver two hormones, specially estrogen and progesterone, from one transdermal device, wherein the two hormones are provided in two separate compartments. The distance between the two compartments, A and B, does not impart patentability to the claims, absent evidence to the contrary. The prior art recognized the transdermal delivery of two different sex steroid hormones from two separated matrix compartments in the same delivery device to achieve the same purpose as desired by applicants, i.e. fertility control. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable/ranges involves only routine skill in the art. *In re Aller* 105 USPQ 233.

- Applicants argue that none of cited references teach a single peel off protective film that when removed permits affixing the two matrices to the patient skin easily, and separate patches may be applied so that the active ingredients may be used together, individually or spread over a period of time.

In response to this argument, applicants attention is drawn to figure 1 of US '736 that shows the removable protective layer 16 as a single layer. In any event, the prior

art of record that teaches two pieces protective layer is disclosed to be capable to deliver two different hormones from two separate compartments as desired by applicants, and it has been held by the court that the use of one-piece structure instead of two, or vise versa, is merely a matter of obvious engineering choice. *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965). It is notices that the present claims do not recite that the two matrices are applied separately to the skin, and it is further notices that applicants also desired to deliver the two active ingredients simultaneously, and not necessary at separated time, see page 3 lines 19-23 of the present specification, and the prior art teaches delivering two active ingredients simultaneously, particularly estrogen and progesterone, but from two separate compartments of the device.

- Applicants argue that figure 3 of US '931 and figures 4 and 6 of US'736 show that there are always two separate compartments supported by the same adhesive matrix, in contrast to applicants' two separate compartments, which are fixed by two separate patches to the skin. Applicants argue that US '394 teaches 1-3 matrices adhering to the cover layer and surrounded by skin contact adhesive.

In response to this argument, it is notices that the present claims do not recite that the two matrices are applied separately to the skin as separate patches, and it is further notices that applicants also desired to deliver the two active ingredients

simultaneously, and not necessary at separated time, see page 3 lines 19-23 of the present specification, and the prior art teaches delivering two active ingredients simultaneously, particularly estrogen and progesterone, but from two separate compartments of the device. In any event, delivering the active agents together, or at separate times is an intended use of the present device, and the recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In this case the cited prior art succeeded to deliver estrogen and progesterone from two separate compartments of a single transdermal delivery device for the same purpose as desired by applicants.

- Applicants argue that the secondary references taken with the primary references do not teach a single protective film for two separate compartments or the advantages of applicants invention of applying the active ingredients together, individually or spread over a period of time.

Regarding applicants argument that the secondary references taken with the primary references do not teach single protective film for two separate compartments or the advantages of applicants invention, the examiner is pointing to the fact that the primary references makes the single protective layer obvious as discussed above, and the secondary references are relied upon for teaching limitations of the dependent

claims so that US '452 is solely relied upon for teaching the species of estrogen and progesterone as claimed in claims 15-17, and WO '772 is relied upon for the solely teaching of the specific species of acrylate adhesive as claimed in claims 18 and 19. A conclusion of obviousness under 35 U.S.C. 103 (a) does not require absolute predictability, only a reasonable expectation of success; and references are evaluated by what they suggest to one versed in the art, rather than by their specific disclosure. *In re Bozek*, 163 USPQ 545 (CCPA 1969). Therefore, the invention as a whole is taught by the combined teachings of the prior art.

In the light of the foregoing discussion, the Examiner's ultimate legal conclusion is that the subject matter defined by the claims would have been *prima facie* obvious within the meaning of 35 U.S.C. 103 (a).

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isis Ghali whose telephone number is (571) 272-0595. The examiner can normally be reached on Monday-Thursday, 7:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward can be reached on (571) 272-8373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Isis Ghali
Examiner
Art Unit 1615

IG

Isis Ghali